US EPA Stormwater Webcast

EPA's Proposed Construction General Permit (CGP)

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Outline

- **CGP Overview**
- **Highlights of Proposed Permit**
- **Q&A**

CGP Overview

CGP Background

- **NPDES permit required for any construction project that clears, grades, or excavates 1 or more acres of land**
  - **Must apply for and obtain permit coverage prior to breaking ground**
  - **To apply for permit coverage, submit a "Notice of Intent" or "NOI"**
  - **Vast majority of construction projects covered by general permits (as opposed to an individual NPDES permit) – typically referred to as a "Construction General Permit" or "CGP"**

- **EPA's CGP covers construction activities in MA, NH, NM, ID, DC, Puerto Rico, the territories, and Indian Country lands**

CGP Background

- **CGPs typically include requirements to:**
  - **Implement and maintain BMPs**
  - **Prepare a stormwater pollution prevention plan (SWPPP)**
  - **Conduct self-inspections and perform maintenance**
  - **Document compliance activities**
- **All new or reissued CGPs must include the requirements of the "C&D rule"**
- **The C&D rule includes the following requirements:**
  - **All sites must implement and maintain BMPs that minimize pollutant discharges**
  - **Certain large sites must comply with a numeric turbidity limit**

Upcoming Permit Renewals

- **Upcoming permits that must adopt C&D rule requirements:**
  - **EPA proposed its draft new CGP (see http://www.epa.gov/npdes/stormwater/cgp) for areas where EPA is the permitting authority**
    - **Comment period ends June 24**
    - **Final permit to be completed by January 31, 2012 (assuming proposed extension is finalized)**
  - **WA and OR have already finalized new permits (TN is about to finalize its permit)**
  - **New permits in next 2 years:**
    - **2011: AR, KS, MA, MN, MS (small), SC, WI, WY**
    - **2012: CO, IA, HI, LA (small), MO, NE, NV, OK, WV, SD**

EPA Requests for Comment

- **EPA's transition to "paperless" NOI system**
- **Whether owner of the site should be responsible for developing SWPPP**
- **Feasibility of stabilizing construction entrance and exit points for 50 feet**
- **Practicability of the deadlines for completing stabilization**
- **Practicability for providing secondary containment for sources of potential pollutants**

EPA Requests for Comment

- **Whether the permit should require immediate notification of EPA for extremely high turbidity levels**
- **The method for determining whether a site discharges to an impaired water**
- **Whether benchmark monitoring is appropriate for assessing the effectiveness of controls in not contributing to impairments**

Highlights of Proposed Permit

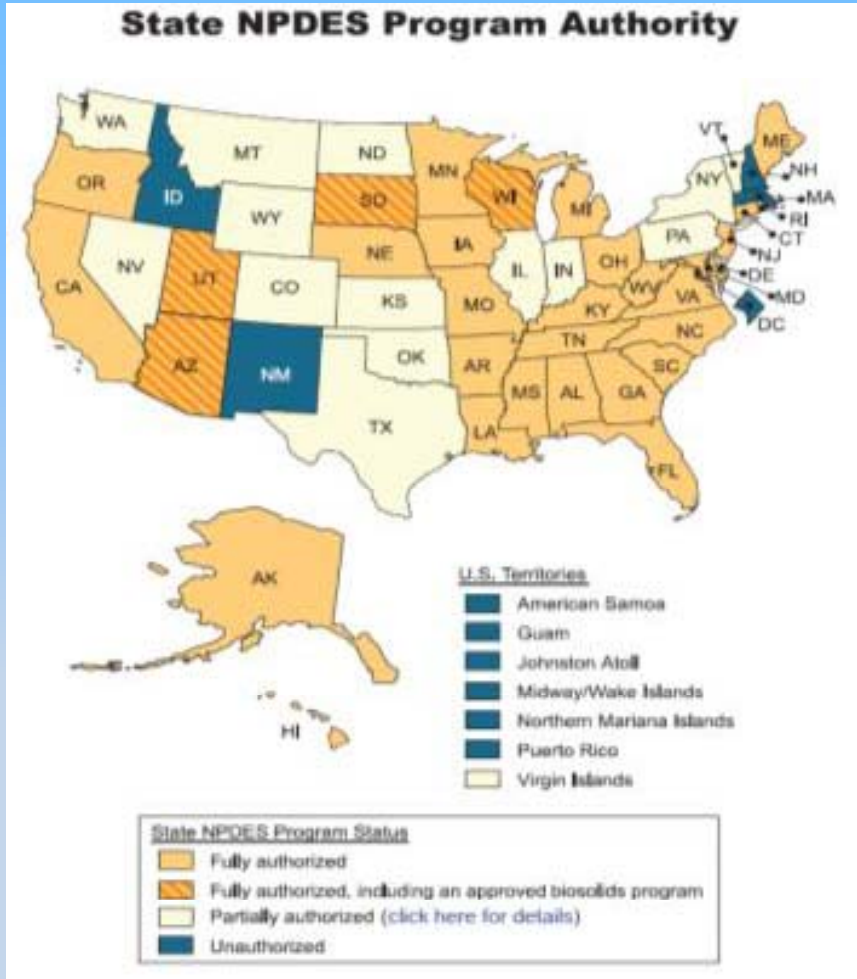
How to Obtain Permit Coverage

Part 1

Step 1. Determine Eligibility

To be covered by the CGP, you must meet the following eligibility requirements:

- **You are an "operator" of a construction project**
- **Your project will disturb 1 or more acres of land**
- **Your project is in an area where EPA is the permitting authority**
- **Your project has satisfied all other eligibility criteria (e.g., ESA)**

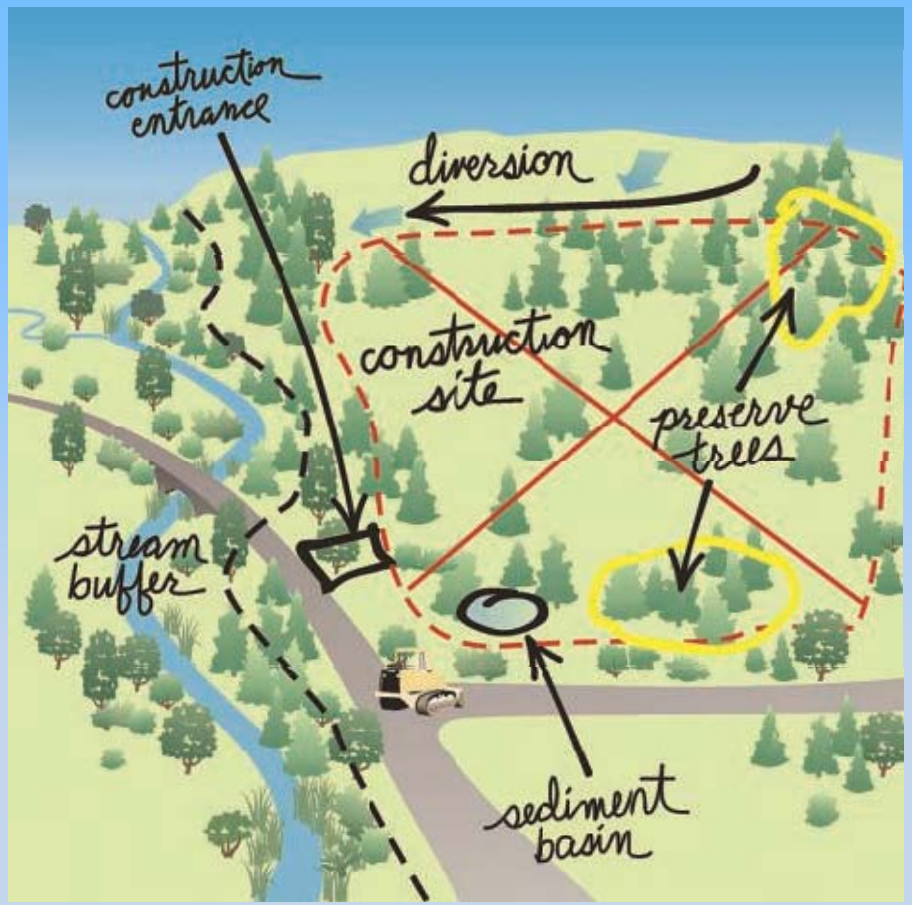


Step 2. Develop Your SWPPP

- **Operators must develop SWPPP prior to submitting NOI for permit coverage**

- **SWPPP Contents:**
  - **Sequence and estimated dates of construction activities**
  - **Site Map**
  - **Description of BMPs**
  - **Documentation of pollution prevention, inspection, maintenance, corrective action, and monitoring procedures**

Step 2. Develop Your SWPPP



Step 3. Submit Your NOI

- **Use EPA's electronic Notice of Intent system ("eNOI system")**

- **Information required:**
  - **NPDES permit number**
  - **Project/site information**
  - **Buffer information**
  - **SWPPP information**
  - **Threatened & endangered species information**

Step 3. Submit Your NOI

Type of Construction Project	Deadline to Submit NOI
New Source	At least 30 days prior to commencing earth-disturbing activities. For secondary operators, 7 days prior.
Existing Permitted Discharger	No later than 90 days after permit issuance if earth-disturbing activities commenced.

BMP-Related Requirements

C&D Rule – BMP Requirements

- **Erosion and Sediment Controls**
  - Minimize soil exposed during construction activity, minimize disturbance to steep slopes, provide stream buffers, minimize soil compaction, etc.
- **Site Stabilization**
  - Initiate stabilization immediately if work on disturbed area has temporarily or permanently ceased
- **Pollution Prevention Measures**
  - Minimize stormwater exposure to building materials, chemicals, construction wastes, trash, and sanitary waste
  - No discharge allowed: washout wastewater, fuels, oils, soaps, or solvents

Site Planning

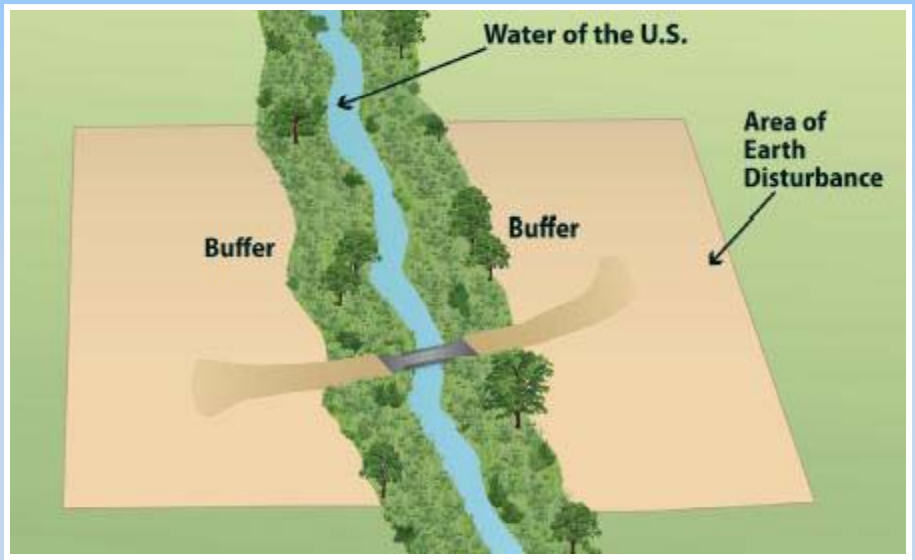
Parts 2.1.1 and 2.1.2

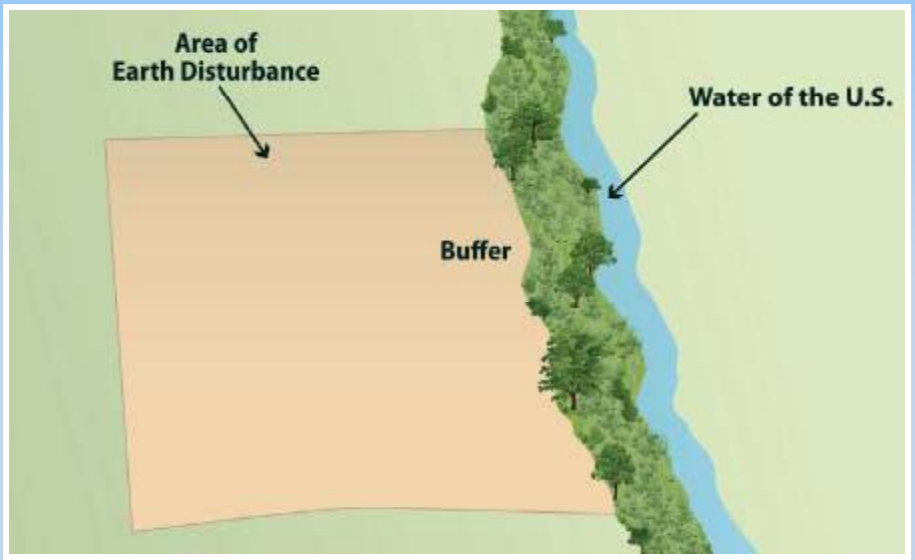
Site Planning (Parts 2.1.1 and 2.1.2)

- **Avoid sensitive areas**
  - **Mark off sensitive areas**
    - **Buffers**
    - **Steep slopes**
    - **Water crossings**
    - **Areas of critical habitat for threatened & endangered species**
    - **Historic properties**
  - **Avoid disturbances to steep slopes**
  - **Minimize stream crossings**
    - **Obtain necessary CWA Sec. 404 permits first**

Buffers

- **Additional protection required for any waters of the U.S. that are located on or immediately adjacent to the site**





Buffers

- **If a water of the U.S. is on or immediately adjacent to your site, you must comply with one of the following:**
  1. **A 50-foot buffer of undisturbed natural vegetation between disturbed portions of site and such waters; or**
  2. **A narrower buffer that is supplemented by additional sediment and erosion controls, which in combination, achieves an equivalent sediment load reduction as the 50-foot buffer; or**
  3. **If infeasible to provide a buffer of any size, implement sediment and erosion controls that achieve an equivalent sediment load reduction as the 50-foot buffer.**

- **If 2nd or 3rd alternatives selected, you must also comply with:**
  - **Stricter stabilization deadlines**
  - **Documentation in SWPPP**

Buffers

- **Example:**
  - **Operator of 6.5 acre site in NM has determined that it is only feasible to provide 28 feet of buffer on the site. The buffer area on the site contains silt soil and prairie grass vegetation.**
    - **Step 1: Estimate Sediment Reduction from 50-foot Buffer:**

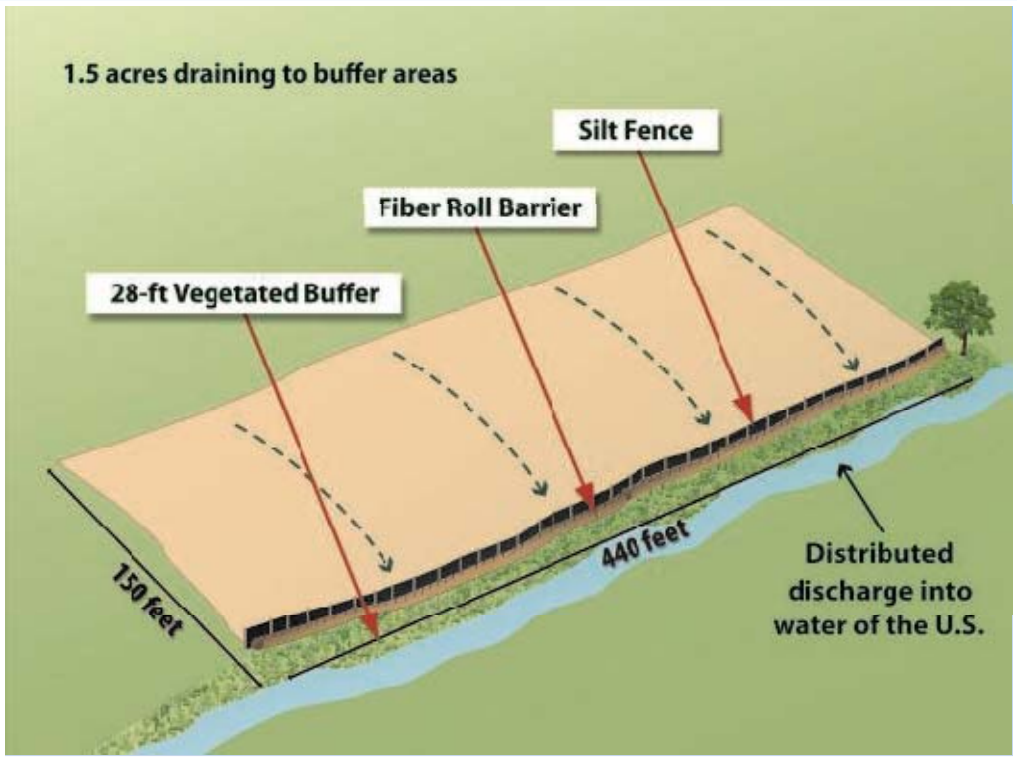
Table 3 – Estimated 50-foot Buffer Performance in New Mexico*

Type of Buffer Vegetation **	Estimated % Sediment Removal				
	Clay	Silty Clay Loam or Clay-Loam	Sand	Sandy Clay Loam, Loamy Sand or Silty Clay	Loam, Silt, Sandy Loam or Silt Loam
Tall Fescue grass	71	85	80	86	96
Medium-density Weeds	56	73	55	66	78
Low-density Warm-season Native Bunchgrass (i.e., Grama Grass)	53	70	51	62	67
Southern Mixed Prairie Grass	53	71	52	63	50
Southern Range Cold Desert Shrubs	56	73	55	65	53

* Applicable for sites with less than nine percent slope
** Characterization focuses on the under-story vegetation

Buffers

- **Example (continued)**
  - **Step 2: Design Controls that Match Sediment Removal Efficiency of 50-ft Buffer**
  - **Step 3: Document How Site-Specific Controls Will Achieve Sediment Removal Efficiency of 50-ft Buffer**



BMP Design and Installation

Parts 2.1.3 and 2.1.4

Erosion and Sediment BMPs

General Design Requirements

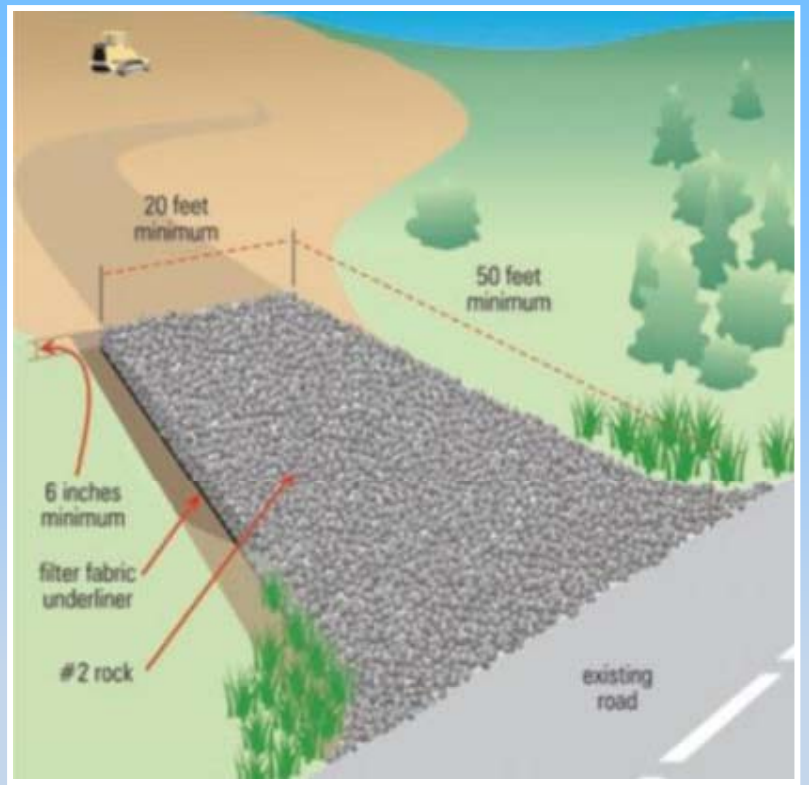
- **Account for known precipitation patterns, how stormwater will run off site, and the range of soil particle sizes expected at site**
- **Control peak flowrates and stormwater volume to minimize erosion at outlets and on downstream channels**
- **Unless infeasible, direct non-channelized stormwater to vegetated areas on site**

Erosion and Sediment BMPs

Specific Design Requirements

- **Sediment or soil piles – prevent contact between runoff and piles through perimeter controls (berms, dikes, fiber rolls, etc.)**

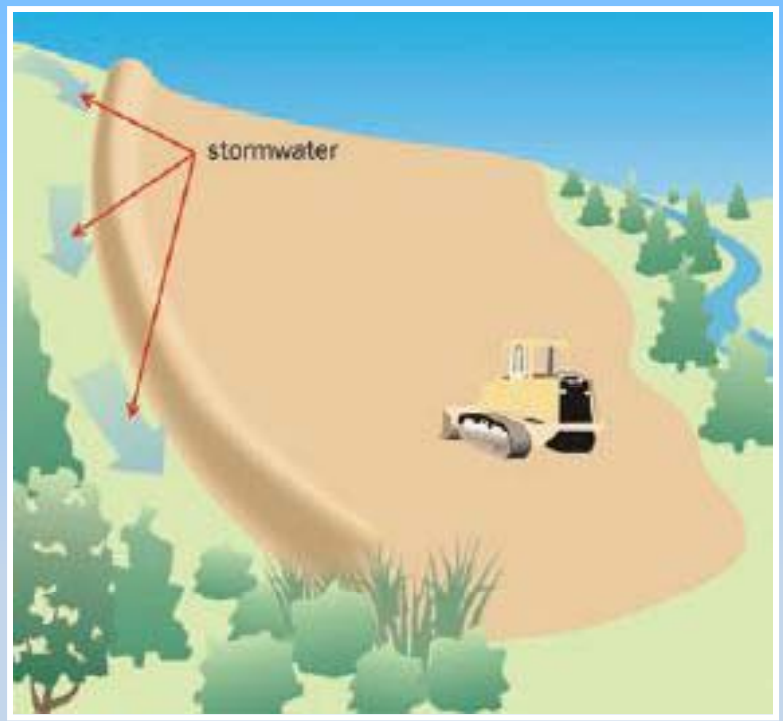
- **Entrance and exit points – stabilize for 50 feet from point of entry/exit so that no soil is left exposed**
  - **Prior to vehicle exit, wash vehicle tires or use some other equivalent method to remove sediment**
  - **Direct wash water to sediment control prior to discharge**



Erosion and Sediment BMPs

Specific Design Requirements

- **Stormwater conveyance channels –**
  - **Divert concentrated flows to avoid contact with exposed soils and steep slopes**
  - **Use velocity dissipation devices along length of channels and at outlets to provide a non-erosive flow**
  - **Stabilize channel w/i 7 days of its construction**



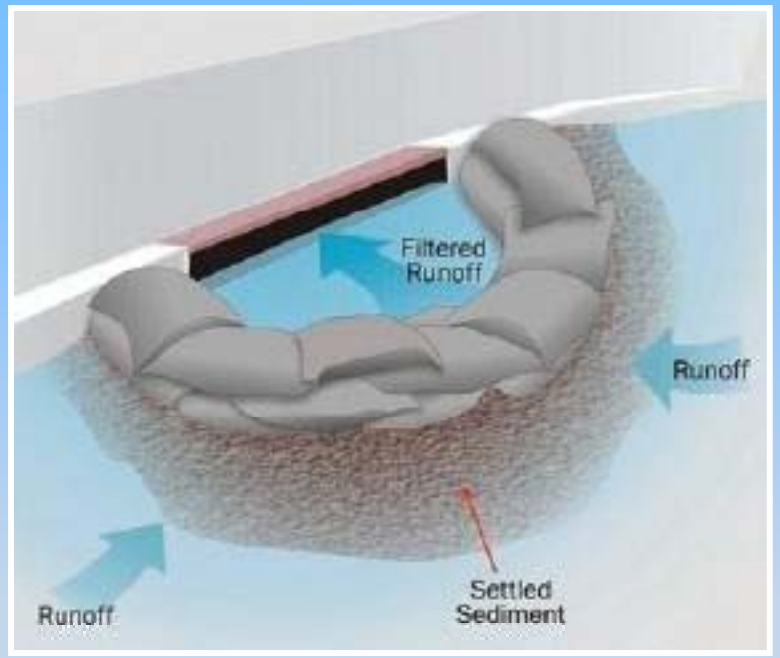
- **Steep slopes**
  - **Use specialized controls for disturbances to steep slopes**

Erosion and Sediment BMPs

Specific Design Requirements

- **Storm drain inlet protection – install inlet protection measures that remove sediment prior to entry into the sewer system**

- **Sediment basins and impoundments – utilize outlet structures that withdraw water from surface, unless infeasible**



Erosion and Sediment BMPs

Specific Design Requirements

- **Chemical treatment –**
  - Store chemicals in leak-proof containers under storm-resistant cover or surrounded by secondary containment
  - Do not apply within stream buffers or in areas with shallow water table
  - Route treated stormwater through sediment trapping, filtering, and/or settling device

- **Dewatering –**
  - Prior to discharge, treat dewatered ground or stormwater with sediment controls
    - Do not discharge floating solids, visible foam, or oily water
  - Provide energy dissipation at points where dewatered water is discharged

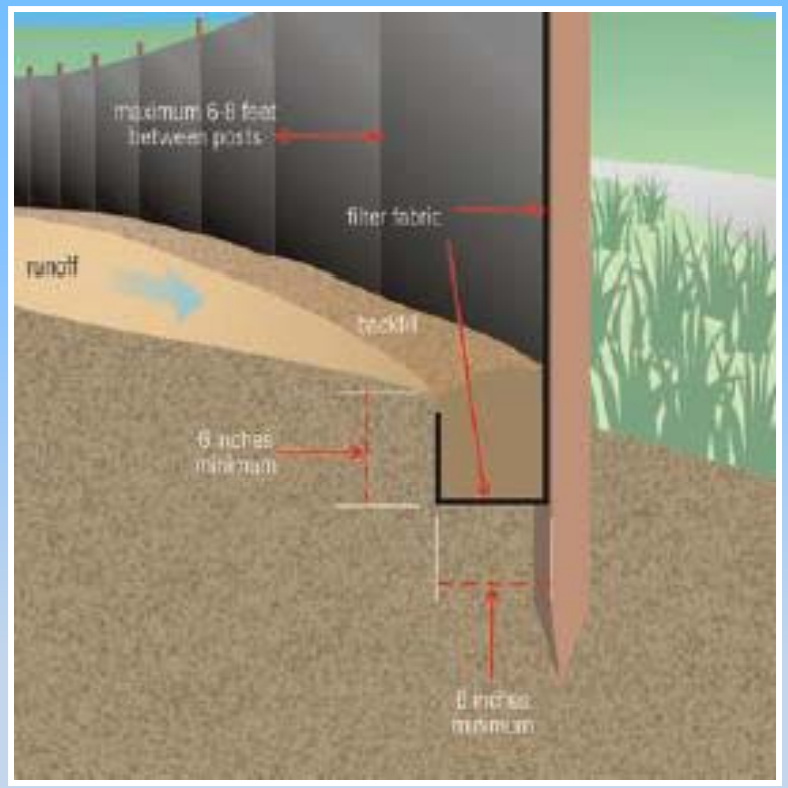
Erosion and Sediment BMPs

Installation Requirements

- **Install BMPs prior to commencing earth-disturbing activities**
  - **Exception: earth disturbances related to initial site clearing and establishing entry, exit, and access of site**

- **Install BMPs in accordance with standard industry and good engineering practices**

- **Install perimeter controls along all down slope areas of disturbance at your site**



Pollution Prevention Measures

Part 2.3

Pollution Prevention Measures

<u>The following discharges are prohibited:</u>

- **Wastewater from washout of concrete, stucco, paint, form release oils, curing compounds, and other construction materials**
- **Fuels, oils, or other pollutants used for vehicles or equipment**
- **Soaps or solvents used in vehicle or equipment washing**
- **Toxic or hazardous substances from a spill or other release**
- **Waste, garbage, floatable debris, construction debris, and sanitary waste**

Pollution Prevention Measures

Design/Location Requirements

- **Locate pollutant-generating activities outside of buffers**
- **Designate areas that are used for pollutant-generating activities**
- **Install secondary containment or equivalent measures**
- **Use leak-proof containers for all chemicals, and provide waste containers with covers to prevent loss of wastes during storm conditions**

Inspections, Maintenance, and Corrective Action

Parts 5 and 6

Inspection Requirements

- **Site inspection must be conducted once every 14 days and w/i 24 hours of end of a storm event ≥ 0.25 inches**

- **Scope of inspection:**
  - **Disturbed areas**
  - **Waste and construction material storage areas**
  - **Areas where BMPs are installed**
  - **Stormwater drainage areas and points of discharge**
  - **Areas where site stabilization has been initiated**

Inspection Requirements

- **What to look for during inspections**
  - **Whether BMPs are installed and appear to be working as intended**
  - **Whether repairs or maintenance required**
  - **If sediment has been deposited in or near stormwater channels, drainage areas, or on road surfaces**
  - **Signs of erosion in channels or point of discharge**
  - **Visual quality of discharge (if discharge occurring)**
  - **Conditions that could lead to spills or leaks**

Corrective Action

- **A "corrective action" is any action taken to:**
  - **Repair, modify, or replace a BMP**
  - **Clean up and dispose of spills, releases, or other deposits found on the site**
  - **Remedy a permit violation**
- **Where problems are found, corrective action is required to remedy them**
  - **Conditions requiring BMP maintenance are not violations**
  - **Failure to take corrective action is a violation**

Corrective Action

- **Examples of conditions requiring corrective action:**
  - **A BMP was never installed or requires repairs**
  - **Sediment has accumulated to a level that is greater than ½ the height of exposed silt fence fabric**
  - **Track-out of sediment has occurred onto road surfaces as a result of vehicle traffic**
  - **Trash or other construction waste left outside of designated disposal containers**

Deadlines for Corrective Action

- **After problem is discovered:**
  - **Within 24 hours, document what problem was found and when it was discovered**
  - **Correct the problem:**
    - **If problem is easily fixed, initiate work to fix the problem immediately and complete work by the end of the next work day, or**
    - **If a new BMP is needed or substantial structural modifications are required, complete work and make the BMP operational no later than 7 days following discovery of the problem**
  - **Within 14 days of discovery, document corrective actions taken to resolve the problem**
  - **If SWPPP modification is required, it must be completed w/i 7 days of completing corrective action**

Questions

Numeric Turbidity Limit

Part 3

C&D Rule – Numeric Turbidity Limit

- **Stormwater discharges from large construction sites must meet a numeric turbidity limit**
  - **EPA's original limit (280 NTU) is being recalculated**
  - **Proposed new limit to be proposed in the next few weeks**

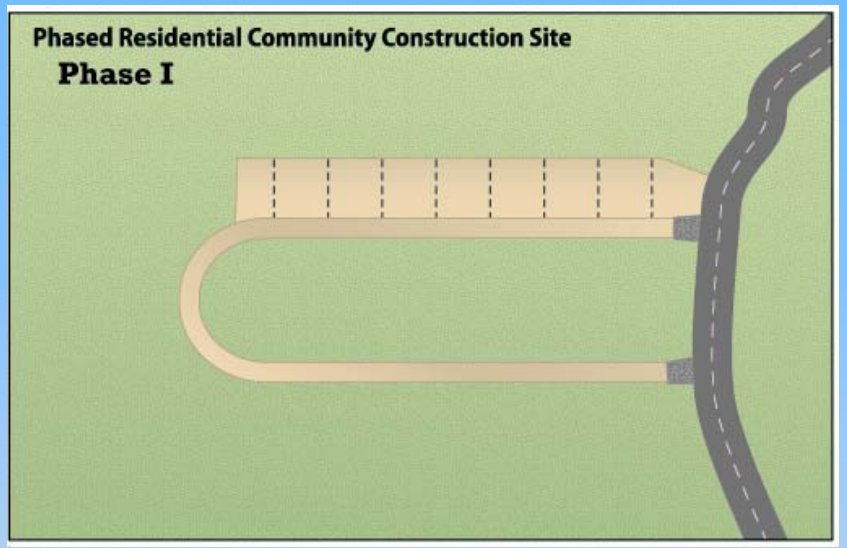
- **Proposed CGP includes requirements to implement the numeric limit if it is finalized prior to date of issuance**

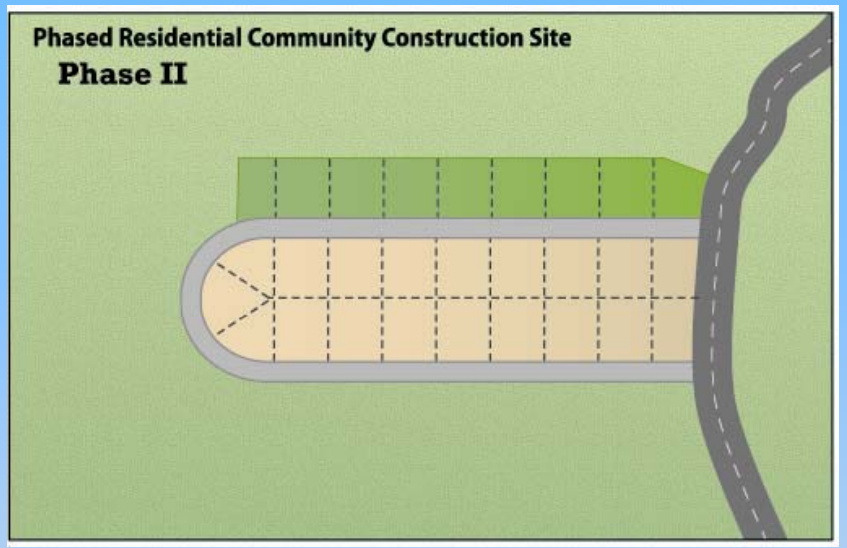
Who Must Comply

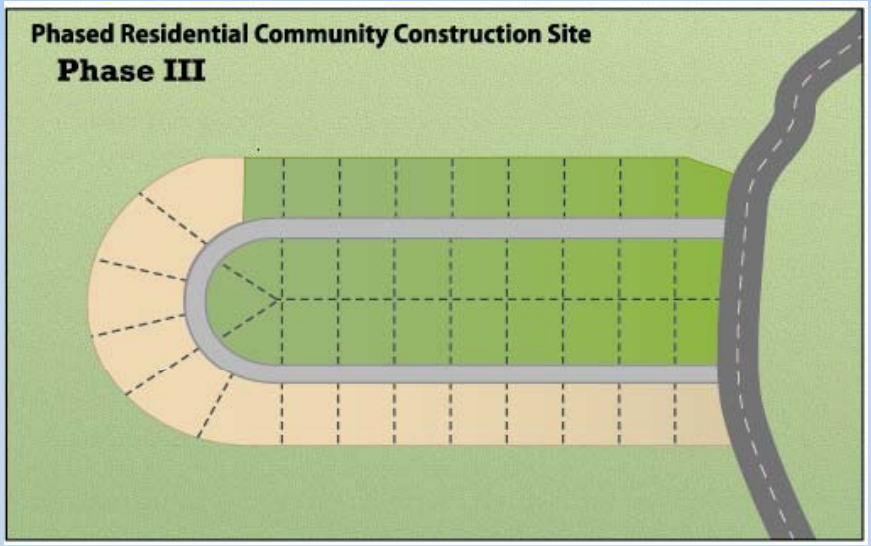
- **The following sites will be required to meet the effluent limit:**
  - **Sites disturbing 20 or more acres at a time (until Feb. 2014)***
  - **Sites disturbing 10 or more acres at a time (after Feb. 2014)***

Note: Dates may change depending on date EPA completes numeric limit correction

Exceptions – Phased Development

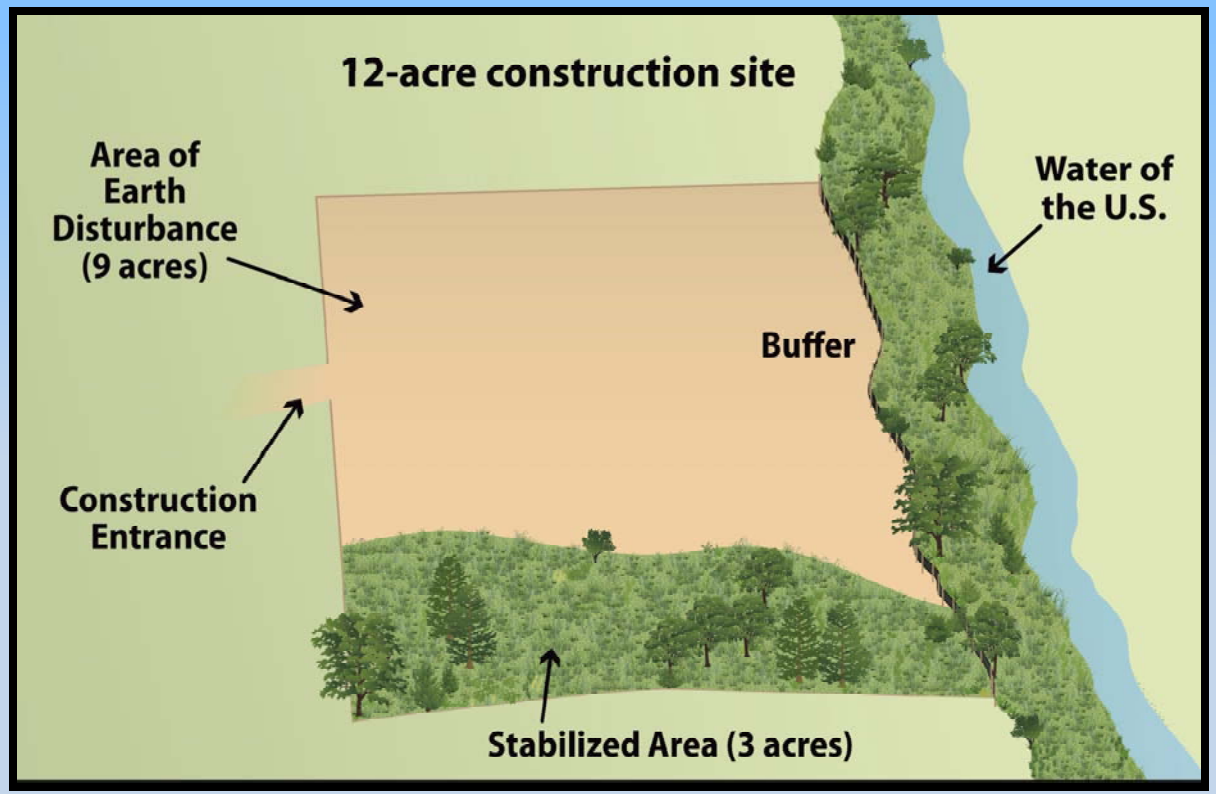






Exceptions - Stabilization

The overall amount of disturbance is reduced through soil stabilization to below the threshold amount



Exceptions – 2-year, 24-hour storm

Numeric limit doesn't apply where the discharge in any day is generated by a storm event in that same day that is larger than the local 2-year, 24-hour storm

- **To be eligible for this exception, the permittee must:**
  - **Know what amount of rain is defined as the area's local 2-year, 24-hour storm**
  - **Demonstrate that a specific storm event produced enough rain to exceed the local 2-year, 24-hour storm amount**

When to Sample

- **During any storm event or snowmelt conditions that result in a discharge of stormwater from the site**

- **Not required to take samples of the discharge**
  - **Outside of normal working hours**
  - **During unsafe weather conditions, such as high winds, lightning, or intense storms**

When to Sample

- **Sampling frequency – A minimum of 3 samples per day of discharge**
  - **1st sample required within first hour that discharge begins**
  - **2nd and 3rd samples (or additional samples) must be distributed throughout the discharge day so that samples will be representative of the event**

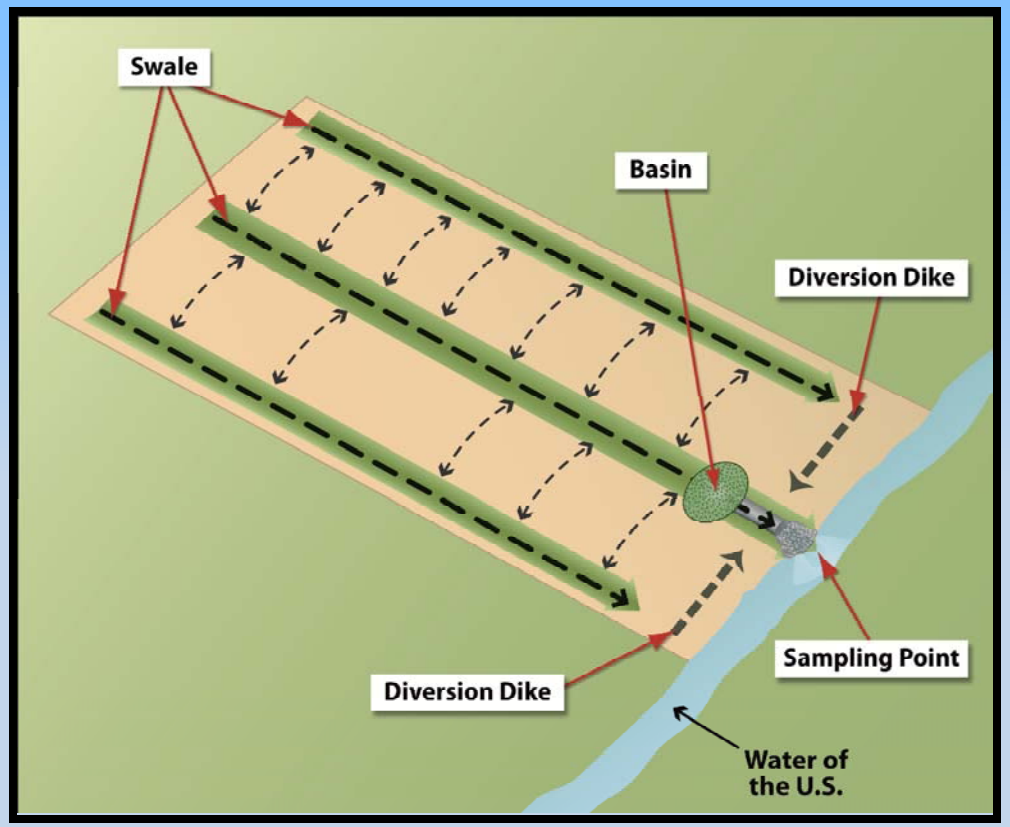
Where to Take Samples

- **Samples must be taken at each point of discharge from the construction site (exception: linear projects)**

- **Not required to take samples of stormwater flow originating outside of site, which does not come into contact with earth-disturbing activities at the site**

Where to Take Samples

- **Sample point must be downstream from disturbed portions of site and downstream from BMPs**



How to Take Samples

- **Either manual or automated grab samples – analyze each sample using a portable turbidimeter or similardevice**

- **Ensure that each sample is representative of the discharge**
  - **Take sample from horizontal and vertical center of discharge**
  - **Avoid stirring bottom sediments**
  - **Keep samples free of floating debris**

Reporting Results to EPA

- **Report sampling results once per month through EPA's electronic reporting system**

- **Each sample report must include**
  - **Sampling location**
  - **Date of sample**
  - **Average value for each day's worth of samples (in NTUs)**
  - **Report "no discharge" if no discharge occurred during the reporting month**
  - **If any of the discharges qualify for the exception for rainfall exceeding the 2-year, 24-hour storm event volume**

Exceedances

- **If the average value of samples taken exceeds the numeric turbidity limit, a permit violation has occurred**

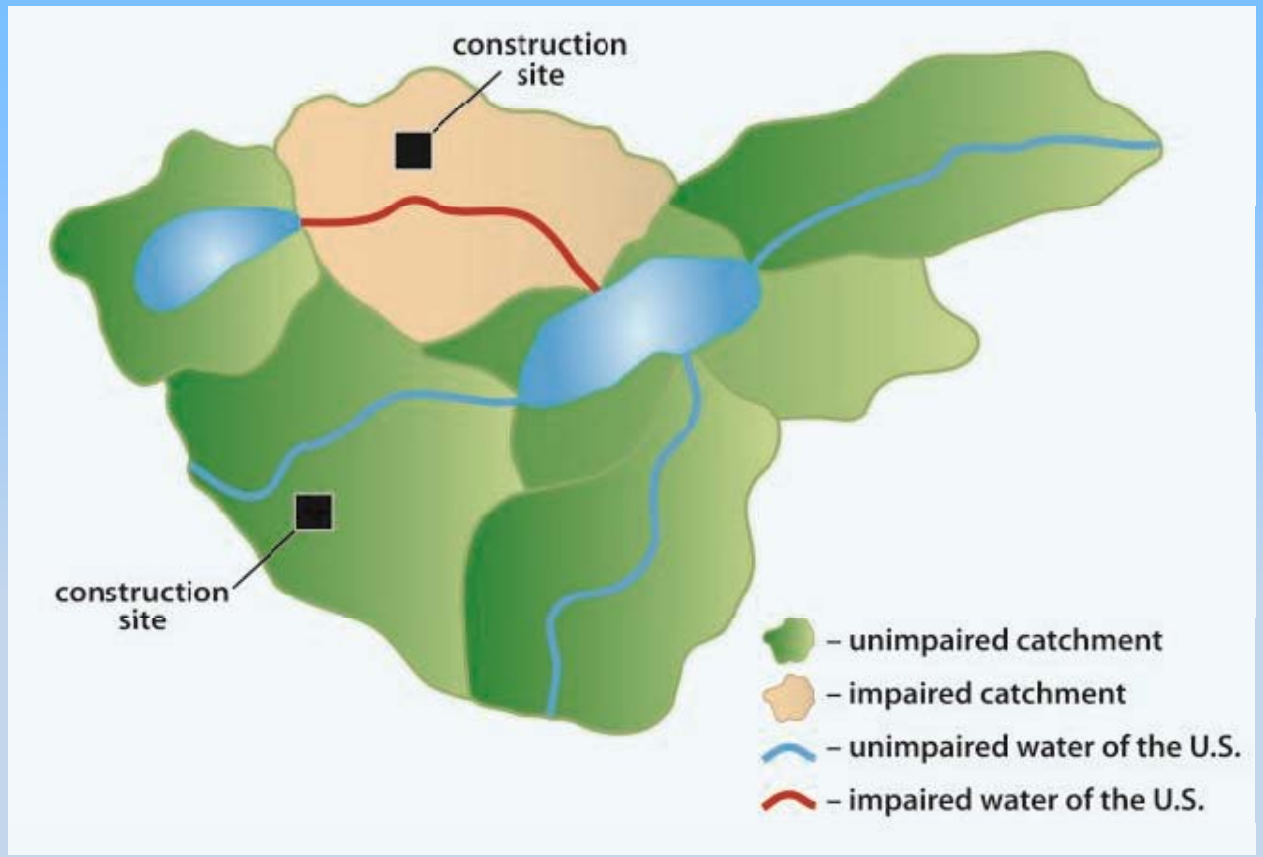
- **Each exceedance triggers the corrective action process**
  - **Initiate work to fix the problem immediately and complete work by the end of the next work day, if the problem is easily fixed, or**
  - **If modifications are required to a BMP, or a new BMP is needed, make the modified or new BMP operational no later than 7 days following discovery of the problem**
  - **Document occurrence of exceedance within 24 hours and within 14 days document corrective actions taken**

Questions

Water Quality-Based Requirements

Part 4

How to Determine if You Discharge to an Impaired Water



Discharges to Sediment or Nutrient Impaired Waters

- **If a site discharges to a sediment or nutrient-impaired water, the permittee is required to comply with supplemental requirements:**

- **More rapid stabilization**
  - **Immediately initiate stabilization where earth-disturbing activities have ceased and will not resume for a period exceeding 7 calendar days**
  - **Complete initial stabilization steps within 3 days**

- **More frequent site inspections**
  - **Once every 7 days and within 24 hrs of storm event of 0.25 in or greater**
  - **Daily visual examination**

- **Benchmark monitoring for sites disturbing 10 or more acres at one time**

Benchmark Monitoring

- **Sample discharge for impairment pollutant**
  - **Benchmark levels found in Appendix J**
  - **Sampling requirements:**
    - **Same requirements as numeric turbidity limit**
  - **Report monitoring results quarterly**
  - **If average value of benchmark samples in any 1 day exceed the benchmark, must conduct corrective action**

Benchmark Monitoring Example

A retail store project will disturb 20 acres at one time. The site discharges to Bear River (Idaho), which is impaired for sedimentation/siltation

- **Benchmark monitoring applies:**
  - **Site disturbs > 10 acres at one time**
  - **Site discharges to sediment-impaired water**

- **Consult App. J (Table J-1.3) for Bear River, ID**
  - **Applicable benchmark pollutant is 50 NTU for turbidity**
  - **Operator must monitor stormwater discharges until land disturbance < 10 acres**

Table J-1.3 – Idaho Water Quality Impaired Waters

LIST ID	WATER BODY NAME	DESCRIPTION	IMPAIRMENT NAME	Pollutant to Monitor	BENCHMARK
ID16010102BR001_05	Bear River	Idaho/Wyoming Border To Railroad Bridge (T14N, R45E, Sec. 21)	Sedimentation/Siltation (See Note 2.a)	Turbidity	50 NTU
ID16010102BR002_03	Pegram Creek	HUC: 16010102	Sedimentation/Siltation (See Note 2.a)	Turbidity	50 NTU

Stabilization

Part 2.2

Site Stabilization

- **"Stabilization" is the process of covering exposed ground surfaces with vegetative or non-vegetative practices to reduce erosion**

- **Deadlines: Where work in an area will not occur for 14 or more days, you must:**
  1. **Immediately initiate stabilization**
  2. **Within 7 days of initiating stabilization, complete the following:**
     a. **For vegetative cover, all soil conditioning, seeding, watering, mulching, and other activities required to plant and establish vegetation;**
     b. **For non-vegetative cover, install all such measures**

Stabilization Criteria

To be considered adequately stabilized, you must:

- **Use cover measures that are shown to meet minimum erosion control effectiveness criteria**
- **Criteria based on studies correlating cover measures with standardized values ("C-factor" from the Revised Universal Soil Loss Equation)**
  - **C-factor values range between a high of 1.2 (bare soil) and a low of 0 (associated with 100 percent soil retention)**
- **App. H of permit provides C-factor values for commonly used stabilization practices**

Vegetative Stabilization

- **Temporary & Final Stabilization Criteria**
  - **70 percent cover method; or**
  - **C-factor method (install vegetative cover methods to achieve a C-factor of 0.05 or less)**

Non-Vegetative Stabilization

- **Non-vegetative stabilization includes practices such as hydromulch or straw/fiber with netting, soil bonding agents with polyacrylamide, riprap, geotextiles, gravel**

- **Criteria**
  - **Temporary stabilization: C-factor value of 0.1 or less**
  - **Final stabilization, C-factor value of 0.05 or less**

Final Stabilization Example

- **A large retail superstore will disturb 5 acres of land.**
- **4 acres will be occupied by the store and associated roads, parking lots, and sidewalks**
- **1 acre of disturbed soil will need to be stabilized**

Final Stabilization Example (continued)

- **To achieve final stabilization, the permittee must install vegetative and/or non-vegetative cover materials that achieve a C-Factor value of 0.05 or less for all disturbed areas. The permittee consults Table H-1 in Appendix H. The cover options available for the permittee are:**

Criteria	Cover Options	Completion Point
C-factor of 0.05 or less (96 % soil retention)	• Grass from planted seed • Sod • Rock surface cover	Grass/sod must provide a vegetative cover of 70 % of disturbed area Rock surface cover must provide a stable surface

Terminating Permit Coverage

Part 9

Conditions for Terminating Permit Coverage

Project is Completed

1. **All disturbed areas have achieved final stabilization**
2. **All construction materials, waste, equipment, stormwater controls; potential pollutants and pollutant-generating activities have been removed or disposed of**
3. **If there are long-term stormwater controls on site, a responsible party has been identified who will maintain the control**

Transfer of Property

Control of project has been transferred to another operator with permit coverage

Project Has Obtained Coverage Under an Individual permit

EPA requires the project to be covered under individual permit

Questions

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Participation Certificate

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- You can type each of the attendees names in and print the certificates.

http://www.epa.gov/npdes/webcasts/certificate/stormwater_CGP.pdf